18. Explain in detail the petroleum refining process with a flow diagram.

19. What are the essential requirements of a good paint? Explain their significance.

20. Explain in detail the analysis of major constituents of cement and their impact on cement properties.

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APRIL/MAY 2025

GOCH35A/DOCH35A — INDUSTRIAL CHEMISTRY II

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Why is hydrogen used in fuel cells?

2. What is the need for caustic soda to use in industry?

3. Name any two rodenticides and their uses.

4. What type of pesticide is Baygon?

5. What are the major uses of coal gas?

6. Define Octane number.

7. Differentiate between toilet and washing soaps.

8. What do you meant by non-ionic detergents?

9. What is opal glass?

10. Define glazing and vitrification.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Construct a fuel cell and give its cell reactions and its advantages.

Or

(b) Briefly differentiate between the primary and secondary cells using suitable examples.

12. (a) Explain the importance and primary uses of dichlorodiphenyltrichloroethane (DDT).

Or

(b) Discuss the synthesis and application of gammaxene.

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13. (a) How synthetic petrol could be manufactured in commercial scale?

Or

(b) Write a note on water gas and producer gas.

14. (a) How do corrosion inhibitors work in detergent?

Or

(b) Differentiate between the paints and varnishes.

15. (a) Explain reinforced concrete in detail.

Or

(b) Explain the importance of clays in ceramics.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the principles, operation and uses of solar cells.

17. Briefly discuss how the frequent usage of pesticides affects the environment and human health.